

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 24 JAN 2005

Applicant's or agent's file reference
02 1377 1479

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/AU2004/001624

International filing date (day/month/year)
22 November 2004

Priority date (day/month/year)
21 November 2003

International Patent Classification (IPC) or both national classification and IPC
Int. Cl. ⁷ A61K 31/275; C07C 255/34, 255/40; C07D 407/12; A61P 25/00

Applicant

THE UNIVERSITY OF NEWCASTLE RESEARCH ASSOCIATES LIMITED et al

1. This opinion contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the opinion |
| <input type="checkbox"/> | Box No. II | Priority |
| <input checked="" type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66 1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

107580098
AP9 Rec'd PCT/PTO 19 MAY 2006

International application No.

PCT/AU2004/001624

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b))
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
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International application No.

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application
- ☒ claims Nos: 8, 9, 13, 14, 62, 63, 67 and 68, as well as parts of claims 1-7, 10-12, 15-61, 64-66 and 69-80

because:

- ☐ the said international application, or the said claim Nos
relate to the following subject matter which does not require an international preliminary examination (*specify*):

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos.
are so unclear that no meaningful opinion could be formed (*specify*):

- ☐ the claims, or said claims Nos.
are so inadequately supported by the description that no meaningful opinion could be formed.

- ☒ no international search report has been established for said claims Nos. 8, 9, 13, 14, 62, 63, 67 and 68, as well as parts of claims 1-7, 10-12, 15-61, 64-66 and 69-80

- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

- | | |
|----------------------------|--|
| the written form | <input type="checkbox"/> has not been furnished |
| | <input type="checkbox"/> does not comply with the standard |
| the computer readable form | <input type="checkbox"/> has not been furnished |
| | <input type="checkbox"/> does not comply with the standard |

- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C of the Administrative Instructions.

**WRITTEN OPINION OF THE
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International application No.

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-7 (in part), 10-12(in part), 15-54(in part), 70(in part)	YES
	Claims 55-61(in part), 64-66(in part), 69(in part), 71-80(in part)	NO
Inventive step (IS)	Claims 1-7(in part), 10-12(in part), 15-54(in part), 70(in part)	YES
	Claims 55-61(in part), 64-66(in part), 69(in part), 71-80(in part)	NO
Industrial applicability (IA)	Claims 1-7(in part), 10-12(in part), 15-61(in part), 64-66(in part), 69-80(in part)	YES
	Claims	NO

2. Citations and explanations:

The following citations were found by the International Search Report.

D1: US 5,892,096

D2: WO 1997/013749

D3: WO 1995/019169

D4: Yuan et al, Bioorganic & Medicinal Chemistry, 10, 2002, p4169-4183

D5: Gazit et al, Journal of Medicinal Chemistry, 1996, 39, p4905-4911

Novelty (N) & Inventive Step (IS)

Claims 55-61, 64-66, 69 and 71-80 include within their scope compounds which are disclosed in citations D1-D5, and thus lack both novelty and an inventive step.

Industrial Applicability (IA)

The claims possess industrial applicability.

**WRITTEN OPINION OF THE
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International application No.

PCT/AU2004/001624**Box No. VIII Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. The claims are defined so broadly and encompass such a variety of compounds that it is felt that they are not adequately supported by the description. Phrases such as "spacer" and "a linker group" include a large variety of fragments when compared to the exemplified simple alkyl spacers and no examples of W other than as CH are given. All of the exemplified compounds have V as C, W as CH, Y as CN and Z as a phenyl ring. As the search was limited to a structure based on the examples, this examination is also restricted to compounds like the examples.
2. Claims 6, 30 and 60 are unclear. The phrasing of these claims makes it unclear what these claims are defining.